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SCIENCE and SCIENTISM

Has science education become indoctrination?

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“Our concern ... is whether a secular indoctrination process is at work in British and European society, programming people against religious belief and, if so, whether education is an accomplice in this.”

Terence Copley¹

At the beginning of 2016, John Cleese, surprisingly, tweeted that he would “like 2016 to be the year when people remembered that science is a method of investigation, and not a belief system”² The difference between these two positions is fundamental to understanding the nature of the scientific method and the extent to which science can inform and direct our world. “A method of investigation” is an accurate description of science; “a belief system” is what can be described broadly as “scientism.”

I discovered science when I was at secondary school in the 1960s and followed that interest to university, taking courses in chemistry, biology, biochemistry and physiology. My familiarity with scientism came much later and from a rather unexpected source.

Darwinian evolution was not a major part of my university courses, but I was aware of a significant mismatch between the Christian understanding of a created universe and the evolutionary view of living things emerging and developing through blind, purposeless processes. At the level of biochemistry, evolution never struck me as remotely possible, but the biological community accepted it without question and I didn’t have arguments to challenge the consensus.

Then, just over a decade ago, I discovered Intelligent Design (ID), or at least its modern manifestation. It came about as a result of two lectures I attended. The first of these, in Glasgow in 2004, was given by Professor Phillip Johnson, former law clerk to the Chief Justice of the US Supreme Court and Law Professor at the University of California in Berkeley. He described how, on a year’s sabbatical in London in 1988, he encountered in the same bookstore two books about evolution: Richard Dawkins’ *Blind Watchmaker*³

1 Preface to *Indoctrination, Education and God – The Struggle for the Mind*, Terrence Copley (SPCK, 2005)

2 @JohnCleese, Jan 3rd, 2016

3 *The Blind Watchmaker*, Richard Dawkins (Penguin Books, 1986)

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and Michael Denton's *Evolution – A Theory in Crisis*⁴. He was intrigued that evolution could be the subject of such diametrically opposed treatments, and spent a good part of his year examining the subject closely. From a position of unquestioning acceptance of Darwinian evolution, he came to the conclusion that the evidence for it was not credible. He describes his findings in his book *Darwin on Trial*⁵.

This was the first time I had heard such a devastating yet non-religious critique of evolution. Johnson explained that evolution, as popularly understood, is sustained primarily, not by the scientific evidence, but by a prior commitment to the philosophy of naturalism⁶. Although I had been a science student, researcher and teacher for forty years, I had never appreciated that, in the area of origins, science is not neutral, but is underpinned by a philosophical commitment which rules out the existence of any agency beyond nature.

Mind you, I should have seen that because several scientists have been honest enough to admit it. Richard Lewontin, Professor of Biology at Harvard, for example, could hardly be more explicit:

*It is not that the methods and institutions of science somehow compel us to accept a material explanation of the phenomenal world, but, on the contrary, that we are forced by our a priori adherence to material causes to create an apparatus of investigation and a set of concepts that produce material explanations, no matter how counter-intuitive, no matter how mystifying to the uninitiated. Moreover, that materialism is absolute, for we cannot allow a divine foot in the door.*⁷

Now at one level you have to admire that degree of honesty, but at another it is quite shocking. What he is saying is that scientific conclusions are not ultimately based on the empirical evidence but on the philosophical assumption of

4 *Evolution: A Theory in Crisis*, Michael Denton (Adler & Adler, 1986); see also by the same author, *Evolution: Still a Theory in Crisis* (Discovery Institute Press, 2016)

5 *Darwin on Trial*, Phillip E Johnson (IVP 1991 and subsequent editions)

6 For a treatment of Naturalism see eg 'The Silence of Finite Space', chap 4, *The Universe Next Door*, James W Sire (IVP, 2004)

7 *New York Review of Books*, Jan 9th 1997, in a review of Carl Sagan's book, *The Demon Haunted World: Science as a Candle in the Dark*, quoted by John Lennox in *God's Undertaker, Has Science Buried God?* (Lion 2009), 36

"materialism" or "naturalism"

The second lecture I attended was in Cambridge in 2005. It was given by the American and Cambridge-trained philosopher of science, Dr Stephen Meyer. He was describing his work on DNA and, in particular, what conclusions can be drawn from its information content, carried in the coded sequences of its chemical constituents.⁸

I had often marvelled at the chemical beauty of the DNA molecule with its double helical backbone and base pair units embedded within its structure. What I had never heard before, and what in retrospect is blindingly obvious, is that the sequence of these base pairs carries digitally-coded genetic information. Intriguingly, Bill Gates has described DNA as "like a computer program but far, far more advanced than any software ever created".⁹

Meyer argued that it is entirely scientific to explore the origin of that information, and that it is well within the scientific method to make an inference to the best explanation for it. To do that it is necessary to draw on our knowledge of processes currently in operation which are known to produce the result observed. In all our experience, functional information, such as is found in print, film or computer software, arises only from the activity of intelligent mind. Hence, the best explanation for the origin of the information carried in DNA is that it is the product of something akin to mind or intelligence.

The sophistication of DNA's information is never going to arise randomly or by chance, any more than intelligible newsprint could be produced by simply splattering ink on enough paper. As Henry Quastler, the pioneering information theorist observed, "Information habitually arises from conscious activity".¹⁰

I could hardly believe my eyes and ears. Here, from scientific data, not religious or philosophical considerations, was clear evidence of a mind behind nature, written all over DNA. It was evidence of Intelligent Design.

An immediate negative response is that this is a classic

8 *Signature in the Cell-DNA and the Evidence for Intelligent Design*, Stephen C Meyer (HarperOne, 2009)

9 *The Road Ahead*, Bill Gates (Viking Books, 1995), 188

10 *The Emergence of Biological Information*, Quastler (New Haven, Yale University Press, 1964)

“God of the Gaps” argument, and that, given time, science will discover a purely natural explanation for the origin of genetic information. But that is to miss the point. The inference to intelligence is, as Meyer pointed out, not based on what we don't know, but on what we do know. DNA actually has real functional information; and we know how that kind of phenomenon arises. It comes from intelligent mind operating on a natural medium.

I was to discover later that the evidence of design in nature is extensive. It can be inferred, for example, from the “fine tuning of the universe” for life,¹¹ from the improbability of generating randomly the complex macromolecules required for life,¹² and from the irreducible complexity of many biological systems.¹³

I had forgotten, too, that the great pioneers of western science, like Galileo, Copernicus, Newton, Kepler, Faraday, Clerk-Maxwell and Kelvin, did their science in the belief that the universe is designed, rational and therefore intelligible. Remarkably, given the present scientific consensus on origins, the perception by these pioneers of “intelligent design” in the universe, is what gave us western science in the first place.

However, I quickly learned that these compelling arguments for design are entirely unacceptable in the scientific community. I noticed also that the critics seldom engaged with the evidence, but preferred personal attacks on ID proponents, most frequently labelling them as “creationists” (interestingly, a new term of abuse like “racists” or “xenophobes”) “pseudo-scientists” or “religious fundamentalists”. Clearly ID kicks the sacred cow of scientism where it hurts.

How then have we arrived at a position where the accepted view in the scientific community is that there is no (nor can be) evidence of design in nature? How has science been turned into a materialistic belief system? It is by applying to science the philosophy of naturalism,¹⁴ an unproven and unproveable assumption, in a way that constrains the

explanatory power of science and allows explanations only to be framed in terms of purely physical or natural causes.

Science, Scientism and Science Education

It is important to stress that the development of the modern scientific method over the last four centuries or so is one of the great achievements of the west. It is essentially the application of reason and logic to the natural world and it progresses by observation, hypothesis, experimentation and theory. However, the scientific method also recognises that absolute certainty is unattainable and that any theory is open to modification, extension or even rejection.

Much scientific work is rightly concerned with the operation and application of natural processes, and the remarkable advance of science on this basis has given much of the world an era of unprecedented prosperity and well-being.

However, a major challenge arises when science turns its attention to considering the origin of these natural processes themselves. Obviously, they cannot explain their own existence and it is logical, indeed scientific, to consider the existence of some agency beyond them. Here science is in danger of turning its normal operating mode, sometimes described as “methodological naturalism”, into “ideological naturalism”, namely, to assert that there can be nothing beyond the natural order as we perceive it. The logical fallacy here is obvious, though it has become the basis of modern scientific theories about origins. Dennis Sewell sums up the problem like this:

For many scientists, however, the methodology they employ every day in their work becomes more than a tool, it becomes a way of looking at the world beyond the laboratory; for some the only legitimate way of looking at the world.¹⁵

In his book *On Being*,¹⁶ Peter Atkins, professor of physical chemistry at Oxford, makes this remarkable claim:

The scientific method can shed light on every and any concept, even those that have troubled humans since the earliest stirrings of consciousness and continue to do so today.

11 See eg *The Goldilocks Enigma*, Paul Davies (Penguin, 2007)

12 *Evolution under the Microscope*, chapter 7, David Swift (Leighton, 2002). See also *Undeniable*, Douglas Axe (Harper-One, 2016) for a popular treatment of this and related issues

13 See eg *Darwin's Black Box*, Michael Behe (Simon and Schuster, 1996)

14 See eg *The Nature of Nature –Examining the Role of Naturalism in Science*, ed Gordon, Dembski et al (ISI Books,2011)

15 *The Political Gene*, p227, Dennis Sewell (Picador, 2009)

16 *On Being*, Peter Atkins (OUP, 2011) vii

Interestingly, science hasn't shed much light yet on the origin of consciousness or on a host of other human experiences. Nonetheless, it is the Atkins' view of science which produces scientism – the conviction that scientific explanations trump all others and alone can offer ultimate explanations.

Michael Shermer, the historian of science, puts a positive spin on “scientism” and describes it as:

*a scientific worldview that encompasses natural explanations for all phenomena, eschews supernatural and paranormal speculations, and embraces empiricism and reason as the twin pillars of a philosophy of life appropriate for an Age of Science.*¹⁷

However, scientism is ultimately self-defeating because it is not open to all of reality. Mind, consciousness¹⁸ and the information carried in the DNA¹⁹ of all living things point to immaterial realities which, though they operate in the natural world, are not explicable by purely physical processes.

Now all of this might not matter overmuch if it remained purely a matter of intellectual debate about the nature and limits of science. But scientism has become a popular belief. Science has explained pretty much everything, apparently, with only a few loose ends to tidy up. This is reflected in a recent survey of belief in Britain which found, among other things, that around a third of British adults do not believe in God and nearly 50% of 18-24 year olds deny the existence of any spiritual power.²⁰

Of course, people are entitled to believe what they wish. But much more sinister is recent guidance from the Department for Education for England and Wales and, to a lesser extent, the Scottish Government, limiting the scope of the discussion of origins in science lessons.^{21 22} This

¹⁷ *The Shamans of Scientism*, Michael Shermer (Scientific American, June 2002)

¹⁸ See, for example, *'Mind & Cosmos, Why the materialist Neo-Darwinian Conception of Nature is almost Certainly False'*, Thomas Nagel (Oxford University Press, 2012)

¹⁹ See ref. 8

²⁰ Yougov.co.uk/new/2015/02/12

²¹ See DCSF (2007) guidance on Creationism and intelligent design. Available at www.teachernet.gov.uk/docbank/index.cfm?id=11890 and can now be found at <http://webarchive.nationalarchives.gov.uk/20071204131026/http://www.teachernet.gov.uk/docbank/index.cfm?id=11890> ,

²² See eg Petition 01530 to the Scottish Parliament, 2014, and associated papers

has come about largely in response to representations from bodies such as the British Humanist Society the Scottish Secular Society.

Not surprisingly, “Creationism” and “Intelligent Design” are at the heart of this Government guidance which appears in several publications and contains the following elements and misunderstandings:

1. Intelligent Design and Creationism are not to be regarded as science and must not form any part of science education. These subjects are, apparently, legitimate within Religious Education and related studies.
2. The guidance consistently, either ignorantly or deliberately, fails to recognise the important difference between Intelligent Design and Creationism.²³ In fact, while Creationism draws, in large measure, from religious texts, Intelligent Design argues from scientific data, and is a minimal commitment to intelligent causation in Nature. This inconvenient truth is simply ignored.
3. Any explanation or theory which holds that “natural biological processes” cannot account for the history, diversity and complexity of life on earth and therefore rejects the scientific theory of evolution cannot be permitted in science classes. This effectively makes “naturalism” or “materialism” the exclusive and obligatory basis for all explanations in biological science.
4. It is conceded, though, that if students raise questions about Creationism and Intelligent Design, teachers should deal with them sensitively, pointing out, of course, that the official line is that these are not scientific positions because they challenge accepted evolutionary theory. It is important to note, however, that in the case of Intelligent Design, this is not necessarily the case as aspects of evolution could be designed. What ID challenges is the random and purposeless nature of Darwinism.

Some of this is said to be necessary in order to prevent religious extremism invading science lessons, which is not, so far as I am aware, a significant problem in the

²³ See my article on www.c4id.org.uk on ID and Creationism under *An Introduction to ID*, section 14, and also in my booklet of the same title, available from Alastair.n@c4id.org.uk

UK. However, the impact of all this is that any open and informed discussion of “creation” or “design” in science is effectively outlawed. In attempting to combat perceived religious extremism, the Government is adopting an equally extreme and dogmatic position with regard to science education.

It is also salutary that some of the advice from the Department for Education appears in documentation relating to the funding of schools and academies.²⁴ The implication is brutally clear. Teach Intelligent Design and you lose your funding. The legalities hardly matter in that context. It is hard to imagine a position which is more detrimental to proper investigation in science and to the unfettered discussion of ultimate questions which will arise in the minds of students, particularly when discussing the origins of the universe and of life.

Intriguingly, in the current “Brexit” era, the Government’s position on what can or cannot be taught about science is also, arguably, in violation of the European Convention of Human Rights (ECHR) which gives parents the right have their children educated “in line with their philosophical and religious beliefs”.²⁵

What the Government is proposing is an affront to the scientific method. Scientists have always understood their task to be the unfettered investigation of nature without imposed dogmas, and to be able to challenge any scientific hypothesis if the evidence merits it. What the Government is in danger of doing is encouraging science students to think that accepted scientific theories, particularly about origins, cannot be challenged and must be accepted without criticism.

So is quasi-legal protection of scientific dogma from uncomfortable enquiry the way to advance our understanding? Is this how Britain and the West achieved the stunning successes of modern science? If scientism continues to be imposed on education, science becomes merely the discussion of strands of evidence which appear to be consistent with an already agreed naturalistic worldview. And that inevitably leads to atheism, which is, of course, essentially a faith position – the very thing you’re not supposed to mix with science.

²⁴ See the School and Early Years Finance (England) Regulations 2014, Department for Education

²⁵ ECHR, Article 2 of the First Protocol

In all this, what is really at stake is whether students should learn science and its methods or be indoctrinated with scientism.

Science and Origins

The scientific study of origins falls into the category of historical science where the normal methods of experimental testing don’t so readily apply. As it is usually impossible to repeat the events of long ago, scientists have to make “an inference to the best explanation” from the evidence available to them – an approach which distinguishes historical science somewhat from regular laboratory practice.

This is precisely the approach Darwin took when theorising about the origin and development of life. It is also the approach taken by the proponents of Intelligent Design who argue that there is clear evidence in nature of pre-existing mind.²⁶ Now although that’s seen as a highly controversial proposition, it is one which can be inferred from the evidence, not deduced from religious convictions.

However, contemporary science, as we have seen, defines itself in a way which excludes any non-material explanation of origins. Professor Steven Weinberg, a Nobel prize winner, is unambiguous about this. The goal of science, he argues, is “to find explanations of natural phenomena that are purely naturalistic”.²⁷ Clearly, if that’s the starting point, the end point is predictable. Professor Richard Dawkins will freely admit that he has no idea about the origin of life,²⁸ or the universe for that matter, and Professor Laurence Krauss argues that a “universe from nothing” is a feasible scientific position.²⁹

Lord Rees, the Astronomer Royal, recently suggested that life may have emerged by a massive “fluke”³⁰ – not, it has to be said, the most scientific of conclusions and certainly not one which is consistent with our experience of the biochemical world. To prefer the “fluke theory” to the design theory is a measure of how far contemporary origins science has drifted from reality. The naturalistic

²⁶ See ref. 8

²⁷ *To Explain the World*, Steven Weinberg (Allen Lane, 2015), xiv

²⁸ See interview with Richard Dawkins and Ben Stein in the DVD *Expelled- No Intelligence Allowed* (NPN Videos, Swindon)

²⁹ *A Universe from Nothing*, Laurence Krauss (Atria Books, 2012)

³⁰ Lord Rees, Daily Telegraph, 8th January 2015

philosophy which now dominates science leads to this kind of breath-taking absurdity as well as the suppression of legitimate debate.

Also in this area, there is the constant confusion of process with agency. It goes like this: if we can explain how certain processes might have operated, we can dispense with any designing agency. So, if we propose, say, an “RNA-world” as a precursor to the “DNA-world” and find some chemical evidence of that possibility (actually, such a scenario is by no means certain), then we have somehow proved that no intelligence is at work behind the process.

A striking example of this approach was when Craig Venter’s team managed to synthesise active DNA in the laboratory by copying known sequences of base pairs in natural DNA.³¹ A leading scientist, when interviewed on Radio 4’s Today programme, hailed this as conclusive proof that DNA could arise naturally without any intelligent agent at work, somehow missing the point that the highly intelligent scientists who worked with Venter took some 15 years to assemble their synthetic DNA.

Professor John Lennox exposes this fallacy by pointing out that there are two ways to understand a Ford motor car.³² You can describe it in terms of the laws of engineering, combustion and motion, or you can explain it through the original agency of Henry Ford and the hundreds of design engineers who have subsequently worked for the company. These are clearly not mutually exclusive explanations.

A designing intelligence behind the universe is entirely consistent with the existence of natural laws and processes which have brought us to this point in our existence. That is the position of Intelligent Design which does not suffer from the contradictions which beset contemporary origins science.

It’s just a pity, and, more seriously, also an affront to academic and public debate that these matters cannot be discussed dispassionately in schools, universities and the public arena. It makes you wonder if there really is an ulterior motive. Why not just explore where the evidence leads, and drop the need for Government interference? Nothing, it seems, must be allowed to unsettle the brittle

protectorate of scientism.

Teaching Evolution in Schools

Any discussion about origins quickly becomes a debate about evolution which is always taught as “a fact”, a status which, strictly speaking, one should not apply to any scientific theory. All scientific theories are tentative and capable of being revised in the light of experience. Some theories are much better attested than others, but no scientific proposition can ever be the last word on the subject.

Proponents of evolution and indeed the officials of national Education Departments seem to forget this and are now effectively protecting evolutionary theory with the force of Government advice. Alternative propositions based on the evidence are not to be tolerated. This is a very peculiar position for any scientific theory to get into and you begin to suspect that evolution is in trouble when it needs Government persuasion to keep it afloat.

And there is another problem with “evolution”. It is a very slippery word which has several meanings, including the adaptation of living things to their environment, the common descent of all life forms from one or more simple precursors, and the development of complex life forms through a completely unguided process of “natural selection acting on random variations” - described in the words of Professor Richard Dawkins as “the blind watchmaker thesis”.³³ These are very different propositions.

The evidence for the adaptation of living things over time to their environment is largely uncontroversial, though the mechanism of natural selection as the sole driver of this process is beginning to be questioned.³⁴ However, the evidence for common descent and the development of complex life forms from simple ones is more ambiguous and contentious. To present “evolution” broadly as “a fact”, without distinguishing between its different strands, is to mislead students and deny them the opportunity to explore the tentative nature of scientific theories and of biological evolution in particular.

Scientists and authors who are critical of key aspects

³¹ See eg http://www.ted.com/talks/craig_venter_unveils_synthetic_life.html

³² See *God’s Undertaker – has Science buried God?*, John C Lennox (Lion, 2009), 45

³³ See ref. 3

³⁴ See, eg, *Evolution, A view from the 21st Century*, James A Shapiro (FT Press, 2011)

of modern evolutionary theory based on scientific data include “The Altenburg 16”,³⁵ Jerry Fodor,³⁶ Michael Denton,³⁷ Stephen Meyer,³⁸ Michael Behe,³⁹ Lee Spetner,⁴⁰ and David Swift.⁴¹ Others, including the late Stephen J Gould,⁴² Lynn Margulis⁴³ and James Shapiro,⁴⁴ while accepting the main proposition of evolution, have disputed that the proposed mechanism of natural selection acting on random mutations is sufficient for the task. Professors Jerry Fodor and Massimo Piattelli-Palmarini go so far as to say, “Darwin’s theory of natural selection is fatally flawed”.⁴⁵

Among the astonishing statements in the writings of the above dissenters is this one from James Shapiro:

*In the context of ideological debates about evolution, this insistence on randomness and accident is not surprising. It springs from a determination in the 19th and 20th centuries by biologists to reject the role of a supernatural agent in religious accounts of how diverse living organisms originated. While that determination fits with the naturalistic boundaries of science, the continued insistence on the random nature of genetic change by evolutionists should be surprising for one simple reason: The capacity of living organisms to alter their own heredity is undeniable.*⁴⁶

This is an astonishing admission by a highly respected professor of biochemistry and molecular biology. He is saying, in effect, that biologists have been blind to what the data shows because of their presuppositions.

Further evidence that Darwinian evolution requires a re-

35 *The Altenburg 16, An Expose of the Evolution Industry*, Susan Mazur (Scoop Media, 2009). See also *The Paradigm Shifters*, by the same author (Caswell Books, 2015)

36 *What Darwin got Wrong*, Jerry Fodor et al (Farrar, Straus and Giroux, 2010)

37 See ref. 4

38 See ref. 8

39 See ref. 13

40 *The Evolution Revolution*, Lee Spetner (Judaica Press, 2014)

41 See ref. 12

42 See, eg, Stephen J Gould and Niles Eldredge, *Punctuated Equilibria: The Tempo and Mode of Evolution Reconsidered* (Paleobiology 3, 1977), 115-51

43 Mann, C (1991). “Lynn Margulis: Science’s Unruly Earth Mother”. *Science* 252 (5004): 378–381. doi:10.1126/science.252.5004.378. PMID17740930.

44 See ref. 34

45 See ref. 36, xiv

46 See ref. 34, 2

think was highlighted in a 2014 paper in *Nature*⁴⁷ and at a conference organised in London in 2016 by the Royal Society.⁴⁸ The growing body of doubt about contemporary Darwinism cannot be ignored and should be part of progressive science education. Only ideologues dismiss it.

In this connection it is noteworthy that, in a public lecture entitled “Darwin on Trial” at the University of California, Irvine, Professor Phillip Johnson argued that “ambiguous terminology, faulty assumptions, and questionable rules of reasoning have transformed a theory which explains minor evolutionary change into a dogmatic naturalistic religion”.⁴⁹

However, you can be sure that there will be enormous resistance to recognising the growing body of evidence against the all-pervasive theory of evolution. Here are some things students probably won’t be told:

1. Evolution has no credible explanation for the origin of life in the first place. Saying evolution doesn’t deal with that, while implying it does, just emphasises its deficiency.
2. Random mutation and natural selection cannot explain the synthesis of the hundreds of complex biomolecules, like proteins, which are necessary for life.⁵⁰ Strictly speaking, natural selection doesn’t operate until life gets started.
3. The mechanism of evolution – natural selection acting on random mutation – is increasingly being shown to be unequal to the task of creating new organisms.⁵¹
4. The “junk DNA” hypothesis, an integral part of the teaching of evolution, is now being abandoned in light of recent work on the human genome.⁵²
5. The much-vaunted “tree of life” is increasingly being shown to have highly speculative elements and is

47 *Nature*, Does evolutionary theory need a re-think? 8th October 2014, K Laland et al.

48 The Royal Society, London: *New trends in evolutionary biology: biological, philosophical and social science perspectives*, Nov 2016, <https://royalsociety.org/science-events-and-lectures/2016/11/evolutionary-biology/>

49 Published on 10 July 2014 at https://www.youtube.com/watch?v=emrBRLZ_JbE

50 See eg David Swift, ref. 12, chap. 7

51 See eg *The Edge of Evolution*, Michael Behe (Free Press, 2007); also ref.s 34 & 36

52 See *The Myth of Junk DNA*, Wells (Discovery Institute Press, 2011) and also literature associated with the ENCODE project, Cambridge, at www.encodeproject.org. See also <http://news.bbc.co.uk/1/hi/sci/tech/4940654.stm>

often at odds with the evidence.⁵³

6. The fossil record is not consistent with the numerous slight successive changes required by evolution, as Charles Darwin himself recognised.⁵⁴
7. Evolution is completely unable to explain the existence of the complex genetic information carried by every living cell in its DNA.⁵⁵
8. Evolution has no credible explanation for mind and consciousness, other than that it is an accidental by-product of chemistry and physics.⁵⁶

Any other scientific theory with such glaring deficiencies would certainly not be taught as “fact”. For Governments to give evolution “protected status” is a complete denial of the scientific method. The nature of science is to constantly challenge scientific propositions and modify them, if necessary, in the light of experience.

It is also the case that science frequently advances when the consensus is challenged in the light of fresh evidence. To teach school students that the scientific consensus must be accepted without question, that no controversy exists when it plainly does, and that dissent must be suppressed is extremely poor practice. It stifles debate, closes off legitimate areas of research, intimidates teachers in pursuing questions raised by pupils in science classes and gives students a wholly false view of the methods of science.

How are teachers expected to respond to the inevitable questions from pupils in science about “creation” and “intelligent design” and the limitations of evolutionary theory? By telling them that such discussion is off limits? Such a position, promoted directly or indirectly by Government, is a form of intellectual intolerance unworthy of a country which has traditionally valued critical enquiry and academic freedom.

I happen to agree that Darwinian evolutionary theory should be explored in schools but it should be presented objectively, indicating the supporting and contrary evidence, and distinguishing between the various meanings of the term. You may wish to note that a remarkable textbook

⁵³ See eg chap 5 in *The Design of Life*, Dembski and Wells (The Foundation for Thought and Ethics, 2008); also chap. 2 in *Zombie Science*, Jonathan Wells (Discovery Institute Press, 2017)

⁵⁴ See *Darwin's Doubt*, Stephen Meyer (HarperOne, 2012)

⁵⁵ See ref. 8

⁵⁶ See ref. 18

for high school students and undergraduates, *Explore Evolution*,⁵⁷ does just that.

I am also most certainly not arguing that Biblical interpretations or any other religious position be imposed on science lessons. What is objectionable is that current Government advice limits discussion in science of legitimate inferences to design in the universe and in living things.

The Origin of Life Question

A recent pronouncement by Professor Stephen Hawking illustrates the challenge posed to science by the origin of life. “We believe life arose spontaneously”,⁵⁸ he asserted. So, for him, the matter is settled - not by the evidence but by the sheer un-acceptability of the alternative of an intelligent agent. But believing that life arose spontaneously – a proposition which science has traditionally rejected unambiguously - is not a substitute for demonstrating that such an event could occur.

Interestingly, on Radio 4's *Today* programme on March 6th, 2004, Sir David Attenborough said, “The problem Darwin never solved was how one inorganic molecule became a living one. We're still struggling with that one.” That's the kind of honesty science needs, even though it is less apparent in some of his nature programmes.

And in the film “Expelled”⁵⁹ Richard Dawkins, in an interview with Ben Stein, essentially validates the inference to intelligent design in nature by admitting that the intricacies of cellular biology could lead to us to detect the existence of a “higher intelligence” or “designer” (his words). He, however, settled for a more highly developed civilisation elsewhere in the universe, but why wouldn't we want to explore the options with students? In this connection, the recent film *The Information Enigma*⁶⁰ from Seattle's Discovery Institute is highly relevant.

And there is a further issue. If we don't know how life began in the first place, how can we assert with any certainty, as Darwinism does, that we know exactly how life developed? In the absence of a credible explanation for how life began,

⁵⁷ *Explore Evolution*, SC Meyer et al (Hill House Publishers, UK edition, 2009)

⁵⁸ Daily Telegraph, 21 June 2015

⁵⁹ See ref. 28

⁶⁰ <https://www.youtube.com/watch?v=aA-FcnLsF1g>

any theory about its development must remain tentative at best. It's a bit like extolling the structural precision and safety of a skyscraper without having any idea about the nature of its foundations.

Scientific Theories and the Immaterial

It is obvious that "natural biological processes" are extensive and offer adequate explanations for many aspects of living things. However, as we have seen, there are features of life which call for explanations which go beyond purely natural processes, such as the origin of these processes themselves, the evidence for design in the universe, and the emergence of genetic information and conscious life. The Neo-Darwinian position that life and the universe, including conscious thought, are the result of blind and purposeless processes provides little confidence to believe that our investigations and conclusions have any validity or truth. Students should be aware of this.

Intelligence, as we know it, is an immaterial phenomenon, yet it operates within the natural order. We use our intelligence to manage the material realities around us. The much repeated appeal in scientific explanations to "natural processes" clearly includes the operation of immaterial human intelligence, otherwise science or any other intellectual pursuit would be impossible. There should be no reason why, in principle, science cannot recognise the evidence for an intelligence which comes from beyond nature, yet operates within it. It is just too easy to dismiss that as religious "supernaturalism."

It is especially noteworthy that the renowned philosopher, Thomas Nagel, subtitled his recent book *Mind and Cosmos* with, *Why the Neo-Darwinian conception of Nature is almost certainly false*.⁶¹ His argument is that Neo-Darwinism cannot begin to explain mind and consciousness – both immaterial phenomena – and is therefore incapable of providing a credible explanation of origins. ID does not suffer from that disadvantage as it is prepared to countenance that there is evidence in nature of intelligent agency. Students need to be aware of these debates.

Interestingly, Nagel, who is probably agnostic or atheist, concedes that Intelligent Design is a scientific proposition

worthy of serious consideration.⁶² His comment emphasises the intellectual arrogance of limiting this debate :

Even though writers like Michael Behe and Stephen Meyer are motivated in part by their religious beliefs, the empirical arguments they offer against the likelihood that the origin of life and its evolutionary history can be fully explained by physics and chemistry are of great interest in themselves. Another sceptic, David Berlinski,⁶³ has brought out these problems vividly without reference to the design inference. Even if one is not drawn to the alternative of an explanation by the actions of a designer, the problems that these iconoclasts pose for the orthodox scientific consensus should be taken seriously. They do not deserve the scorn with which they are commonly met. It is manifestly unfair.

The claim that the introduction of Intelligent Design into science lessons will confuse students is disingenuous. What will certainly confuse students is to demonstrate how scientific advances are made through painstaking research, sustained intellectual effort and hard work, and then claim that the vastly more complex structures of life arose by random naturalistic processes. This is not just counter-intuitive, but completely at odds with the cause and effect structure of the world. To brainwash our young people into accepting such contradictory positions is wholly reprehensible.

What we are witnessing is not really a commitment to science, but rather a dogmatic adherence to assumptions of naturalism. The determined and sometimes mindless opposition to any suggestion of the possibility that we are here as the result of an intelligent cause, as opposed to blind materialistic forces, borders on the irrational and certainly does not sit easily with proper scientific enquiry and freedom of expression. What all honest scientists do is to go where the evidence leads.

The fundamental problem with all this is that there are now, as Philip Johnson has pointed out, two definitions of science.⁶⁴ The first is the popular definition which

⁶² See ref. 18

⁶³ David Berlinski, *On the Origins of Life*, Commentary, 2006, reprinted in *The Deniable Darwin and other essays*, (Discovery Institute Press, 2009)

⁶⁴ Philip Johnson, lecture in Newcastle, 2004

⁶¹ See ref. 18

insists science can only deal with natural processes and, for example, cannot contemplate any explanation about origins which suggests a non-material explanation such as “mind before matter”. The older and more honest definition is that science goes where the evidence leads and does not rule out any possible explanation before it is given due consideration.

It is clear that Darwinian evolution is based on the first definition. So what is being taught in our schools and universities about origins is the secular, humanistic, naturalistic worldview which rules out any possibility of design in nature. It is, in fact, a form of indoctrination which persists for ideological reasons, despite the contrary evidence. You might call it intellectual fascism.

What's to be done?

At the very least we need to be aware of what is being done in our name in schools, both in science and across the curriculum. Terence Copley's comment about education being complicit in the secular indoctrination of young people, at the head of this article, is both important and ominous.

If we cannot persuade legislators and educationalists that the evidence, as well as the rights and beliefs of parents are being disregarded, particularly in the area of the science of origins, then we need to find other ways of ensuring that our young people remain open-minded and hear the arguments for design in nature. If schools and colleges won't do it, homes and churches should.

But the signs are not encouraging. A recent survey in the US found that, although preachers included issues of science and faith in their sermons at least once a year, only 1% of youth pastors thought this area was relevant to their young people⁶⁵.

So there's a double whammy for you. Our young people are exposed to a thoroughly secularised system of science education for around of 15 years of their life, and their youth pastors don't think these matters are important enough to include in their teaching programmes.

Why is it that the church is largely asleep about this core

issue? And when it is aroused to the problem, its leaders just mumble feebly that they're sure there is no conflict between science and faith. Of course, there shouldn't be any conflict between faith and science, but there certainly is a massive conflict between Darwin and Design.

It's time for Christians to wake up, before we lose the next generation of our young people to secular indoctrination. In truth, that battle may already be lost.

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A fuller version of this paper can be found in chapter 7 of *What are they teaching the Children?* ed. Lynda Rose, published by Voice for Justice UK and Wilberforce Publications, 2016

⁶⁵ *Are Young People Losing their Faith because of Science?*, John G West (Discovery Institute, Seattle, 2014)